

PATENT

Atty. Dkt. No. APPM/008260/PPC/ECP/CKIM

IN THE CLAIMS:

Please cancel claims 2, 6, 21-22, and 33-43 without prejudice, and amend the claims as follows:

1. (Currently Amended) A substrate spin rinse dry cell, comprising:
a cell body defining an interior processing volume;
a substrate support member positioned in the processing volume, the substrate support member comprising:
a rotatable flywheel having a plurality of upstanding substrate engaging members extending therefrom; and
a central hub member positioned radially inward of the plurality of upstanding substrate engaging members, the central hub member having an upper surface wherein a plurality of backside fluid dispensing nozzles and at least one backside gas dispensing nozzle are positioned thereon; and
at least one frontside fluid dispensing nozzle positioned to dispense a rinsing fluid onto an upper surface of a substrate supported by the substrate support members;
wherein each of the plurality of upstanding substrate engaging members comprises:
a pivotally mounted substrate engaging finger member; and
a fixedly mounted substrate support post member positioned in a channel formed into an inwardly facing surface of the substrate engaging finger member, wherein the pivotally mounted upstanding substrate engaging member is pivotally actuated via vertical movement to contact a shield member positioned in a lower portion of the spin rinse dry cell.
2. (Cancelled)
3. (Currently Amended) The spin rinse dry cell of claim [[2]] 1, wherein the substrate engaging finger member further comprises a rounded leading edge having a

Page 2

443002_1.DOC

PATENT

Atty. Dkt. No. APPM/003260/PPC/ECP/CKIM

first thickness and a tapering trailing edge portion having a second thickness, wherein the first thickness is greater than the second thickness.

4. (Currently Amended) The spin rinse dry cell of claim [[2]] 1, wherein the substrate engaging finger member further comprises a horizontally positioned substrate engaging notch positioned proximate an upper terminating end of the substrate engaging finger member.

5. (Currently Amended) The spin rinse dry cell of claim [[2]] 1, wherein the substrate support post member further comprises a substantially horizontal substrate support surface having an angled substrate guide surface positioned radially outward of the substrate support surface.

6. (Cancelled)

7. (Currently Amended) The spin rinse dry cell of claim [[6]] 1, wherein the pivotally mounted substrate engaging finger members are configured to be actuated between an open position where a substrate may be loaded onto the support post members and a closed position where a bevel edge of the substrate is engaged by a horizontal channel formed into an inwardly facing surface of the finger member.

8. (Previously Presented) The spin rinse dry cell of claim 1, further comprising a shield attached to the central hub member and extending radially outward therefrom, wherein the shield is configured to substantially cover the rotatable flywheel.

9. (Previously Presented) The spin rinse dry cell of claim 1, further comprising at least two flow circulation breaker members attached to the central hub member and extending radially outward therefrom.

10. (Original) The spin rinse dry cell of claim 9, wherein the circulation breaker members are positioned to float above the substrate support member.

PATENT

Atty. Dkt. No. APPM/008260/PPG/ECP/CKIM

11. (Original) The spin rinse dry cell of claim 10, wherein the circulation breaker members are shaped with a tapered leading edge.
12. (Previously Presented) The spin rinse dry cell of claim 9, wherein the circulation breakers are sized and shaped to minimize formation of low pressure above the central hub member during substrate rotation.
13. (Original) The spin rinse dry cell of claim 1, further comprising a substrate sensing assembly positioned outside the cell body.
14. (Previously Presented) The spin rinse dry cell of claim 13, wherein the substrate sensing assembly comprises at least one light emitter and at least one light detector, the emitter being positioned to emit an optical signal parallel to and just above the surface of a substrate that is properly positioned in the spin rinse dry cell and the detector being positioned to receive the optical signal.
15. (Original) The spin rinse dry cell of claim 14, wherein the detector and emitter are positioned to determine presence and the planarity of the substrate relative to the substrate support members.
16. (Currently Amended) A substrate rinsing cell, comprising:
a rotatable flywheel having a plurality of substrate engaging finger assemblies extending therefrom, each of the plurality of finger assemblies having an outer pivotally mounted substrate engaging member and an inner fixed substrate supporting member, wherein the outer pivotally mounted substrate engaging member is pivotally actuatable between a substrate loading position and a substrate processing position, and the pivotally mounted substrate engaging member is pivotally actuated via vertical movement to contact a basin shield member positioned in a lower portion of the substrate rinsing cell;
a central hub positioned in the central opening of the rotatable flywheel;

PATENT

Atty. Dkt. No. APPM008260/PPC/ECP/CKIM

at least one backside fluid dispensing nozzle formed on an upper surface of the central hub and configured to dispense a rinsing fluid onto a backside of a substrate; and

at least one frontside fluid nozzle configured to dispense a rinsing fluid onto a frontside of the substrate.

17. (Previously Presented) The substrate rinsing cell of claim 16, further comprising at least one gas dispensing nozzle configured to dispense a drying gas onto at least one of the frontside and the backside of the substrate.

18. (Original) The substrate rinsing cell of claim 16, wherein the plurality of finger assemblies comprise a rounded leading edge and a tapering trailing edge.

19. (Original) The substrate rinsing cell of claim 18, wherein the leading edge of the finger assemblies has a first diameter and the trailing edge of the finger assemblies has a second diameter, the first diameter being larger than the second diameter.

20. (Original) The substrate rinsing cell of claim 18, further comprising a horizontally positioned substrate engaging notch positioned proximate an upper terminating end of the finger assembly on an inwardly facing surface thereof.

21-22. (Cancelled)

23. (Original) The substrate rinsing cell of claim 16, wherein the fixed substrate support member comprises a post having an upper substantially horizontal substrate supporting surface and an inclined substrate centering surface positioned radially outward of the substrate supporting surface.

24. (Original) The substrate rinsing cell of claim 16, wherein the substrate engaging member has a vertical channel formed into an interior surface thereof, and the fixed substrate engaging member being positioned in the vertical channel.

PATENT

Atty. Dkt. No. APPM/008260/PPG/ECP/CKIM

25. (Previously Presented) The substrate rinsing cell of claim 16, further comprising a plurality of flow circulation breaker members positioned over the rotatable flywheel.

26. (Previously Presented) The substrate rinsing cell of claim 25, wherein the circulation breaker members comprise an elongated member extending radially outward from the central hub and extending upward from the flywheel toward the substrate.

27. (Previously Presented) The substrate rinsing cell of claim 26, wherein the circulation breaker members float above the flywheel and are fixed to the central hub.

28. (Original) The spin rinse dry cell of claim 26, wherein the at least one circulation breaker is fabricated from at least one of a polymeric material, a plastic and polyetherimide.

29. (Previously Presented) The spin rinse dry cell of claim 26, wherein the at least one circulation breaker defines two fins extending radially from the central hub in substantially opposite directions.

30. (Original) The substrate rinsing cell of claim 16, further comprising a substrate presence and planarity sensor.

31. (Original) The substrate rinsing cell of claim 30, wherein the sensor comprises an optical emitter and an optical detector, the emitter and detector being positioned to emit an optical signal through a plane of the substrate to determine the presence of the substrate and in a path parallel and proximate to a surface of the substrate to determine planarity of the substrate.

32. (Original) The substrate rinsing cell of claim 31, wherein the emitter and detector are positioned outside of a cell body containing the flywheel.

PATENT

Ally. DKL No. APPM008260/PPC/ECP/CKIM

33 -43. (Cancelled)